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PUB-NO: JP404038430A
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TITLE: TEMPERATURE ADJUSTER

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INVENTOR-INFORMATION:

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APPL-NO: JP02144744

APPL-DATE: June 1, 1990

US-CL-CURRENT: 374/163

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ABSTRACT:

PURPOSE: To enable a temperature adjuster to be in contact with water via only an electric insulator and improve thermal response by making a temperature sensing part in a structure comprising a positive resistance temperature coefficient resistor mainly containing crystalline resin and carbon black and a pair of electrodes in electric contact with the positive resistance temperature coefficient resistor, without a mechanical movable part.

CONSTITUTION: A variable resistor 4 is inserted into a circuit of a power source 3 of a pair of electrodes 2a, 2b, while a voltage sensing part 5a for measuring voltage and a switch 5b for controlling power supply to a heater by the voltage sensing part 5a are provided on both sides of the variable resistor 4. A positive resistance temperature coefficient resistor 1 and a pair of the electrodes 2a, 2b are coated by an electric insulator 6. Operation is described below. A resistance value increases as a temperature rises, and the positive resistance temperature coefficient resistor 1 and the variable resistor 4 are connected to a power source in series, so that voltage applied across the variable resistor 4 varies corresponding to a change in the temperature of the positive resistance temperature coefficient resistor 1. The change in the voltage causes electromagnetic force generated on the voltage sensing part 5a to change to open/close the switch 5b. Thus the variable resistor 4 can perform temperature adjustment.

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